

# Machine Learning of the Classifier of Authors of Social Network Messages

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## Abstract

The results of research into the process of grouping authors of printed text messages in social networks are presented. The hypothesis about the possibility of grouping authors based on the results of the classification of their text messages has been confirmed. For this purpose, the virtual robot builds an intelligent monitoring agent for grouping the authors of social network text messages. The peculiarity of these messages is that they are short texts. In this regard, machine learning of classifier models was carried out on observation points that described message windows of 100 characters. In the process of this training, the method of profiled formation of the primary description of the text message is used. The structure of a virtual robot that performed the monitoring task of grouping authors with common properties is described. An example of building a structural element of a virtual robot - an agent model of a classifier is given. Messages from two authors belonging to one of the expertly created classes were used as a benchmark. The analysis of the results of the work of the virtual robot allows us to state that the authors whose texts are recognized as similar to the standard have similarities in the form and content of their statements. The results of the research can be used to identify groups of authors who engage in joint destructive activities in social networks to the detriment of Ukraine (trolls).

## Keywords 1

Intelligent monitoring, machine learning, text classification, grouping of authors, social networks, Facebook, message.

## 1. Introduction

Today, monitoring is an information technology for providing decision-making processes with information about the properties of objects by organizing observations and processing their results. Intelligent monitoring involves providing decision-making processes with knowledge. Knowledge is extracted from the results of observation. According to the results of intelligent monitoring, the decision-maker receives classified objects of observation, their states are identified, and the consequences of the application of managerial influences are predicted. The possibility of solutions and other intellectual tasks is also provided.

The application of intelligent monitoring technologies in the information war involves the solution of a number of specific problems, in particular, the classification of the authors of printed messages posted on social networks. The content of the classes and the list of classification features are determined by monitoring tasks.

Social networks have become the arena of informational battles, the goal of which is to seize the controlling influence on the consciousness of their users. Account owners who perform discriminatory

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tasks are called trolls. The grouping of trolls will make it possible to form measures against them with special accuracy.

The use of virtual robots (VR) for intellectual analysis of text messages allows you to automate the process of countering troll attacks. An agent approach to the construction of VR allows to ensure its versatility and adaptability when performing the task of intelligent monitoring. The VR structure contains intelligent monitoring agents (IMA), executive bots, means of internal interactions and external communications. Each of the IMAs performs a separate task in accordance with the external orders of the decision-maker. This paper presents the results of research into the process of building a classifier model for authors of text messages in social networks. The classifier is an agent model of IMA. The set of IMAs, which perform the task of grouping the authors of messages in social networks, allows to provide a comprehensive analysis of the virtual environment of a given social network or group of such networks.

The task of text classification is the most common in natural language processing technology [1]. Vector descriptions [2] of texts are built by using content analysis [3]. Sentence elements – words – are used as content. The elements of the vector model (features) are built on the basis of the frequency characteristics of the use of words in TF, IDF, TF-IDF texts [4].

In contrast to generally accepted NLP methods, virtual robots use deep decomposition of sentences when building feature dictionaries. Vector descriptions are built from the frequency characteristics of the use of word elements - letters and other signs in text messages. The results of research into the processes of building text classifiers built on the basis of frequency characteristics of the use of letters and other elements obtained as a result of deep decomposition of sentences are presented in this work.

## **2. Information search results.**

### **2.1. Highlighting unresolved issues**

One of the important components of intelligent monitoring is machine learning of the classifier of message authors. Researchers are actively developing the direction of classification of short text messages. The basis of text classification is the construction of features developed by man. At work [5] a method of using the n-gram function for short text classification is proposed. Researchers are working in the same direction [6 and 7], however, they use more complex features such as POS tags and dependency analysis. This approach made it possible to slightly improve forecasting results.

Other scientists took as a basis the use of knowledge bases to enrich short texts with information. For example, a group of authors Wang Fang, Wang Zhongyuan, Li Zhoujun, and Wen Ji-Rong [8] maps a short text to a set of relevant concepts and uses Probase to classify the resulting features. On the one hand, explicit modeling of features generates representations that can be interpreted by humans. However, on the other hand, this approach does not capture contextual semantic information.

It is also worth noting the work of those authors who focus on the probabilistic topic of the short text and practice the joint use of words to represent the short text as a distribution by its topics and vice versa. In this context, a new approach is proposed in the work of a group of scientists [9], where non-negative matrix factorization (NMF) was successfully applied to model short text topics.

Today, deep learning algorithms have gained significant popularity. In the study [10] the authors use a combination of a convolutional network to map semantic features and a recurrent network to extract sequential features for short text classification. A number of researchers, in a model based on a convolutional neural network (CNN) at the symbol level [11; 12] display the semantic characteristics of character n-grams using CNN filters for text classification.

In research [13; 14; 15] Bi-LSTM and Self-attention models encode short text and relationships between words for text classification.

A number of researchers have proposed their approaches based on the thematic model. In the works [16; 17; 18], use topic modeling based on word sharing in cross-text over large documents (or pseudo-documents). This approach makes it possible to study the embedding of words and their further use to solve the problem of data sparsity in a short text and improve the classification efficiency.

To plot graphs of similar short text queries and products, researchers Tayal Kshitij, Rao Nikhil, Agarwal Saurabh, Jia Xiaowei, Subbian Karthik, and Kumar Vipin [19] use ancillary signals in e-commerce, such as purchase intent.

In the study [20] a graph convolutional network (GCN) is applied to this graph to improve performance. A graph of similar elements reduces data sparsity by providing additional information for improved classification.

Scientists at work [21] use weak control to create fake-documents for hierarchical text classification.

### 2.1.1. Statement of the research problem. Hypotheses

The purpose of the work is to study the processes related to the grouping of the authors of messages in social networks. The results will make it possible to develop a technology for identifying authors with common characteristics, in particular the Troll group, whose activities are hostile to Ukraine.

The task of classifying text messages, the authors of which implement a joint program of influence on users of social networks, must be solved.

The problem is formalized as follows.

Given:

1. a list of classes of text messages whose authors share a common cognitive representation.
2. program agents-classifiers of texts of the monitoring information system (MIS) [22].

It is necessary to solve the problem of classification of authors of printed messages from a social network by constructing a decision rule in the form of a classifier model.

It is known [23], that language is a cognitive reflection of personality properties.

Therefore, a number of hypotheses were put forward:

- Hypothesis 1: In order to identify the common properties of the authors, it is necessary to classify their messages from social networks.
- Hypothesis 2. Authors of social network messages that perform a centrally formulated common task have similar cognitive representations in the texts of these messages and can be grouped into a common class.
- Hypothesis 3. The use of the method of profiled construction of the primary description makes it possible to build effective classifiers of text messages with similar cognitive representations of authors who perform common tasks.
- Hypothesis 4. The cognitive mapping of common properties of authors performing the same task is realized in the form of special connections between features of text messages. These relationships can be reflected in the structure of classifier models of printed text messages, in particular in multi-layer models of monitoring agents and multi-level models of agent functions [24].

## 3. Research. Results and their discussion

An experiment was conducted to test the proposed hypotheses.

The subject of research was printed messages on the Facebook social network as cognitive reflections of the properties of their authors.

For this, 5 classes of texts were formed by experts, the authors of which had signs of common properties. The classification results are presented in Table 1.

**Table 1**

Classification of printed messages of social networks

Class	Number of messages	Volume of messages, signs
1. "Patriots of Ukraine"	23	23799
2. "What a difference"	10	8008
3. "Connoisseurs of the true history of Ukraine"	35	7074
4. «Supporters of Poroshenko»	109	29787
5. «Supporters of Zelenskyi»	10	3644

The virtual robot built an IMA, which determined the similarity of the author of each new message in the social network to authors belonging to one of the classes described in Table 1.

The monitoring agent synthesized a decisive rule that ensures the fulfillment of its agent task: the assessment of whether a new message belongs to a given class. The decision rule was built in the form of a classifier model by means of machine learning using the multi-line algorithm of the method of group consideration of arguments (MGUA) [25]. The model was synthesized according to the method described in [26].

The message from the social network is divided into separate sections of the "window" and transformed into an array of numerical characteristics using the method of profiled construction of the primary description [27]. The size of the window is chosen from the condition of ensuring the limit of informative sufficiency [26] and volume of a typical social network message. The window size was expertly set to 100 characters.

The observation point in the multi-profile feature space is built in the form of a vector of numerical characteristics, or a line in the two-dimensional space of the primary description of the text message.

The array of input data (IMD) was built on the basis of primary descriptions of text messages. The array of observation points that formed the sequence "personal" contained several characteristic messages that belonged to the same class and was labeled with a feature value of 100. The sequence "Alien" contained observation points that described all other messages. The list of these messages was determined by experts.

For a preliminary assessment of the effectiveness of the VR agent's classification task from the robot agent, which detects the similarity of the authors of messages belonging to classes 1-5 to the author of the message with the code "K2. KR-4". It belongs to Class 2. "What a difference." The Ministry of Internal Affairs contains descriptions of 187 messages in the form of 304 observation points. Of them, 179 points formed sequences for training (A) and testing models (B), and 103 points describing 12 messages were used as a sequence (C) for testing models and were not used in the process of building these models.

In the process of building the model, 2 messages with the ciphers "M2.KR-4" and "M2.KR-7" described by 26 points were marked as "Yours". All other 36 messages, which were described by 176 observation points, were marked as "Personal".

Table 2 shows a fragment of the array of input data.

**Table 2.**

Fragment of the array of input data for the agent synthesizer of models

Message	Function	а	б	в	г	д	е	ж	з	н	і	ї	й	к	л	м	...
KP-4_2028 (0) [100]	100	1	1	1	1	4	2	3	1	4	4	0	1	0	2	3	...
KP-4_2028 (1) [100]	100	6	1	4	0	2	2	1	0	8	5	3	0	1	3	1	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
ПУ-1_150 (0) [100]	-100	1	0	5	1	4	2	0	2	5	6	2	0	4	2	4	...
ПУ-2_245 (0) [100]	-100	1	1	6	2	1	7	1	4	4	2	0	0	2	4	3	...
ПУ-2_245 (1) [100]	-100	9	0	2	2	4	0	1	1	7	7	4	0	5	3	3	...
ПУ-3_308 (0) [100]	-100	9	0	3	1	3	3	0	1	3	4	0	1	5	2	2	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
KP-1_414 (2) [100]	-100	7	3	4	1	3	4	1	2	4	3	0	0	1	3	0	...
KP-1_414 (3) [100]	-100	5	1	6	2	1	4	2	0	4	1	1	1	6	3	1	...

...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
ППИ-9_463 (2) [100]	-100	5	2	7	0	4	3	0	4	6	4	1	1	3	5	1	...
ППИ-9_463 (3) [100]	-100	4	0	5	1	2	4	1	2	8	5	1	1	3	2	1	...
ППИ-23_373 (0) [100]	-100	9	2	7	0	4	2	1	3	2	5	1	0	6	2	0	...
ППИ-23_373 (1) [100]	-100	9	3	1	0	6	2	0	3	5	5	0	1	4	4	5	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

For machine learning of the model, the agent chose the multi-line MGUA algorithm [23] as the most suitable.

In fig. 1 shows a fragment of the polynomial classifier model.

$$\begin{aligned}
 \text{Function} = & -58,29895505743+9,68824701242842 \cdot \text{ю}- \\
 & 1,84301800933427 \cdot \text{де}+0,83588028837207 \cdot \text{ю}^2+14,490137809862 \cdot \text{де}^2+25,7466742596787 \cdot \text{ї}- \\
 & 37,3100028456089 \cdot \text{@i}+5,8050861803494 \cdot \text{ї}^2+10,8520673519767 \cdot \text{@i}^2- \\
 & 0,0410158409408909 \cdot \text{ю} \cdot \text{де}+0,0162031173446963 \cdot \text{ю}^3+0,322387068788613 \cdot \text{ю} \cdot \text{де}^2- \\
 & 0,00308235711118048 \cdot \text{де} \cdot \text{ю}^2- \\
 & 0,0613284501305226 \cdot \text{де}^3+0,000608835425838174 \cdot \text{ю}^4+0,024227519203258 \cdot \text{ю}^2 \cdot \text{де}^2+0,24102272216 \\
 & 5091 \cdot \text{де}^4-9,15578766746536 \cdot \text{ї} \cdot \text{@i}+0,64932205054709 \cdot \text{ї}^3+1,03512490603359 \cdot \text{ї} \cdot \text{@i}^2- \\
 & 0,940945122048975 \cdot \text{@i} \cdot \text{ї}^2- \\
 & 1,50001948990191 \cdot \text{@i}^3+0,0333655846056913 \cdot \text{ї}^4+0,106380331918875 \cdot \text{ї}^2 \cdot \text{@i}^2+ \\
 & 0,0847937714332723 \cdot \text{@i}^4 \dots
 \end{aligned}$$

**Figure 1:** Fragment of the model-classifier of the authors of printed messages of the Facebook social network

As a result of the test, the classifier was found to be similar to the author K2. KR-4 authors of 7 messages from class 2 "What a difference" out of 8 messages of this class, 1 author of a message with the code K3.PPI-30, belonging to class 3 "Connoisseurs of true history" and 1 author of a message with the code K4.PP- 48, which belonged to class 4 "Supporters of Poroshenko". Table 3 shows the texts of these messages.

It is noteworthy that the authors of all messages marked by the intelligent agent as "Common with the benchmark" have similarities in the form and content of statements, written in the same style, basically agree and complement each other.

Authors of messages that are marked by the agent as "Different from the standard" occupy a different position in life. They have a different style of expressing their opinions, written aggressively and antagonistically to the position "What a difference".

**Table 3**

Results of classification of text messages from the Facebook social network

Class	Code	Result	Text (translation from Ukrainian)
2	K2.KP-4	Standard	I think that replaces the concept. Language in the state is important. The language of the authorities must be Ukrainian and only, state documents, forms, receipts, tickets, etc. - you use Ukrainian. Teaching in schools and universities is in Ukrainian. But how to react, if in everyday life people communicate in Russian, Polish, German, English, Tatar, Hebrew, Romanian, Belarusian, etc., you cannot list. In addition to another Russian, as well as Ukrainian, they

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communicate not only in the Russian Federation (because it does not use their language), but also in a number of countries. This is already a historical fact. We didn't make it, we have to live in it, change it, correct it. But is it right to do it in such a way as to disparage people who must make their own decisions about their choices in any matter? After all, we Ukrainians don't like it when, over the years, decisions about our national identity were made for us? Why create new enemies, there are already enough of them. It is Russian that Ukrainian citizens will teach their Ukrainian-speaking children another language at home and in the kitchen for a long time, so that they understand it, like, let's say, English. And what should we do in this case? Are we going to violate the article from the Declaration of Human Rights on non-interference with her right to private life? It is necessary to eradicate the use of a foreign language, any language, in state use. I am against the use of various kinds of "fakes", "messages" in the media, etc., etc. mixed with Ukrainian. The everyday language is also far from perfect. But, if the Ukrainian language becomes more valuable than a Ukrainian in Ukraine, we will turn to the wrong place again. For some reason, it has become fashionable to popularize the Ukrainian language through hatred, negativity, opposition. I think we should always start with love, and first of all, to the person whom we so wish to become happy in Ukraine. And finally. What can be achieved is clearly visible on the example of the Russian Federation, where Russian came to mean русский, where they forgot that in addition to Russians, many other nationalities live there, and maybe even more, where citizenship began to replace nationality.

2 K2.KP- Standard  
7

I believe that such speeches only lead to chaos, and they beat each other's foreheads... The enemy has come to us! He came to us by force! Did we receive it with joy and hugs...with a smile on our face?! No!!! We started to defend ourselves!!! Fight!!! We are ready to crush this pork with our bare hands!!! When a person who was brought up in Soviet times, or a small ethnic circle had such an influence in learning and upbringing... will this person accept orders and threats?! Will a person listen to rudeness in his direction through language?! No!!! Will defend himself, even realizing that he is wrong... Love must be instilled in the language. It is possible to help find ways in poetry, music, and in general to ask with an ordinary dialogue, why a person does not have wings to his native language?! The language must be loved and respected... It must be helped to understand it by others. Advise...And only Moxyns act by force...!!!You don't have to compare yourself to them!!! And now, the question arises, why is it so difficult with our nightingale?! During independence, everyone pay attention to how schools disappeared in their region!!! Not even Ukrainian, just ordinary schools!!! How many of them were going to be closed!!! The government is fully responsible for the language,

or rather its knowledge and study!!! Social policy should be a model for ministries!!! And from our side, from the side of the people, we must closely monitor this and demand the development of the study of Ukrainian!!! If a person communicates to himself in Russian, then let him communicate. However, we have to irrigate the next generation in the love of the Ukrainian language. So that it was pleasant for her to communicate. So that she loves the language!!! And finally, during the war (ATO), perhaps the speaker does not know... During the Ilovai cauldron, near the command headquarters of the aggressor, at that time there was an incredible number of traitors who had an excellent command of the Ukrainian language!!! Yes, not even traitors. It should not be assumed that there are already complete idiots who do not know what to do and in which situations to act... On the contrary, there are very insidious, cunning and cold-blooded creatures!!! They know everything very well and are waiting for their sneaky chance!!! Such appeals as the author's only make, AT THE PRESENT TIME, only worse for us... Peaceful heaven to all! I wish harmony... self-respect... Understanding for many years, especially within yourself!

- |   |         |                         |  |
|---|---------|-------------------------|--|
| 2 | K2.KP-1 | Similar to the standard | <p>What a stupid thought.. There will always be something to divide society: religion, culture, which foot to stand on, which hand to baptize... "Divide and conquer" is relevant at all times .. And now this post is another attempt to divide society... We must to find and spread what really unites. And this is what every Ukrainian has, regardless of the color of their skin, eyes or language... This is volya (freedom)... It is in our blood...</p>   |
| 2 | K2.KP-2 | Similar to the standard | <p>I completely agree with you! The UN will not even respect and support us, if Zelya and his gang do not stop the policy of nationalism and Russophobia, which continue today's war with Russia! I understand that Putler and his gang started the war themselves and they are guilty, but our government is complicit in the resolution of this war!</p>   |
| 2 | K2.KP-2 | Similar to the standard | <p>"language law", or more precisely - a violation of Article 10 of the Constitution of Ukraine, on the Ukrainian language and the languages of Ukraine's national minorities! And this also includes the destruction of Ukraine's domestic and foreign policy! Which showed the whole world that our policy is weak and has no independence! But Russia saw our problems, treated our problems as a tool for the conquest of Ukraine and that's it! The war has been going on for 2 months!</p>   |
| 2 | K2.KP-2 | Similar to the standard | <p>I agree that language is important.. But even if there were no Russian-speakers in Ukraine at all, it would not have changed anything... Sooner or later this war would have happened anyway, they would have found another reason, an adventure. .. As an example in Moldova or GE They are still fighting with the Bender Nazis... So all this is the result of a series of mistakes and wrong decisions starting in 1991, with the lack of lustration of all state bodies, leaders, where the communists remained, who then they destroyed everything, including the</p> |

army, because they were implementing their vested interests everywhere. And then criminality joined them and things went well...

2 K2.KP-6 Similar to the standard

and that's not the point at all... And you, probably with experience... however, it is the will that distinguishes Ukraine!!! Will to freedom! All the ways you suggest are "take and learn, I said!!!!". VERY INTERESTING IS COMING OUT: I APPEAL TO PEOPLE, I WRITE TO HELP OTHERS LEARN! HELP FIND THE WAY TO OUR BELOVED LANGUAGE!!! In response, all the commenters: "What do you know?!", "What the hell are you listening to", "in 8 years they would be singing...", etc. You ask for a normal path, and in response they turn on a dumb bitch who said so and never!!! Do you like war?! In this way, it will continue for a long time!!! The most interesting thing, I suggest, is that actually more Ukrainian-speaking traitors were caught than those who spoke Russian. Those scum who lived among us!!! And what was most surprising, their number was the largest in the western part!!! Usually, about such things as language, people will not sit here and argue "like gibbons", "LEARN UKRAINIAN, SPEAK UKRAINIAN"!!!! I will say from my own experience, when we entered, they did not care at all who spoke in which language...!!! They roared with happiness when they saw us... Anyday, we will run out of internet here, it would be interesting to read what the people will write next... However, if such a majority will continue to be stubborn, then prepare for a long-term war than you are told ... Do not stir up enmity with the language at this time!!! Only fools can use it!!!

2 K2.KP-8 Similar to the standard

I believe that such speeches only lead to chaos, and they beat each other's foreheads... The enemy has come to us! He came to us by force! Did we receive it with joy and hugs...with a smile on our face?! No!!! We started to defend ourselves!!! Fight!!! We are ready to crush this pork with our bare hands!!! When a person who was brought up in Soviet times, or a small ethnic circle had such an influence in learning and upbringing... will this person accept orders and threats?! Will a person listen to rudeness in his direction through language?! No!!! He will defend himself, even realizing that he is wrong... Love must be instilled in the language. It is possible to help find ways in poetry, music, and in general to ask with an ordinary dialogue, why a person does not have wings to his native language?! The language must be loved and respected... It must be helped to understand it by others. Advise...And only Moxyns act by force...!!!You don't have to compare yourself to them!!! And now, the question arises, why is it so difficult with our nightingale?! During independence, everyone pay attention to how schools disappeared in their region!!! Not even Ukrainian, just ordinary schools!!! How many of them were going to be closed!!! The government is fully responsible for the language, or rather its knowledge and study!!! Social policy should be at the center of work of the ministries!!! And from our side, from the side of the people, we must closely monitor this and



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2      **K2.KP-10**      Differs from the standard

**I'm reading the Facebook feed and I don't understand. Are you people out of your mind? Is the war over? Does everyone already have a "goat in gold"? Stop it! I don't want and won't be Zebot or Porohobot, I don't see joy in being a bot at all. I want to be a person and have my own thoughts and views! Zelenskyy is negotiating with different countries for help - let's go! - well done, doing what he can! Poroshenko established air defense in Kyiv, helps the army with money - great! - well done, doing what he can! And we should do what we can, and not bite each other on the Internet, whose president is better! Stop rocking the boat, the waves around are pretty high. Do not look for betrayal and do not sow discord! I don't like Kim and Arestovych, and God be with them, read Zaluzhny, watch Marchenko, listen to Nikoliuk's interview! Everyone can find their own "Crash", as it is now fashionable to say. I am grateful to Arestovych for calming my mother and my husband, because if there was a panic, I wouldn't know what to do with them)) I bow to Zulazhny for everything he does, he is a Man and a Warrior (that's right, with a capital letter), Respect and thanks to Nikoluk for our Chernihiv Oblast. People, let's stick together! All questions - I know, there are many - after the Victory! Glory to Ukraine! Glory to the nation! Glory to the Armed Forces!**

1      **K1. ПУ-13**      Differs from the standard

**Fewer emotions, more logical thinking. Do not follow the methods of Moscow and their provocations. They need a "griznya" in the middle of the country, they need us to "bring the heads" of such politicians as Zelensky, Arestovych, Poroshenko, etc. putler under his feet. The same applies to mayors of cities and heads of regional administrations. This is the kind of pressure on politicians: "either you cooperate with the Russian Federation, or we will destroy your career and reputation."**

3	K3.ПП-30	Similar to the standard	<p>everything is true, but at the end of the struggle in Ukraine, Makhno understood everything and tried to join forces with the army of the already non-existent UNR. An epiphany came to him late, only after the capture of Crimea and the execution of its people. It is necessary to know and understand the history in order to make a truly conscious choice, but... I am deeply saddened to observe how many volunteers, true patriots, do not understand a single thing and chew informational gum from TV channels. What a strange quirk of Ukrainian fate! Distantly reminiscent of the times of Bryukhovetsky-Doroshenka....save me, God.</p>
4	K4.ПП-23	Differs from the standard	<p><b>**** stupid and primitive and this time: where, ***, did you get the number of casualties in the Armed Forces of TEN, ***, thousands? And this, note, for FIVE years of war. Did Skabeeva or Kiselyov tell you these numbers? hell, how many ALREADY, ***, in less than two months have died in the ZSU and in the NG and in Terbaty and civilians? "I shake hands, I hug" over the phone and two days later, more than three hundred prisoners were exchanged. You would send ***Putin and forget about the prisoners, like your Zebil. "it's you, crazy-headed, who remembered the "handshake" after sucking on the gums with Putin's *** Arakhamia, Podolyak and Reznikov, which the whole world saw. ((!?!?Scarecrow, are you looking for the stupidest people in Ukraine? They are not here, but on the pages, where monuments to Zelya are sculpted from chewed poop and sticky diapers.</b></p> <p><b>And what does "dobazarish" mean? Will you write a denunciation to the NKVD? ((( How are grandparents in the 37th?</b></p>
4	K4.ПП-48	Similar to the standard	<p>Pechiersk Hill According to the news from the front, Ukrainians did not notice an extremely important event in their lives. Therefore, we congratulate them all on the formation of a new pro-government coalition in the Verkhovna Rada. Naturally, "Servant of the People" and OPZZ were included in it. That is, excuse me, the "Platform for Peace and Life" faction, as Serhii Lyovochkin's new project is now called. The name itself indicates. OPZZ is no longer an opposition platform, it is for peace. Obviously, for peace with the Office of the President. Literally yesterday, the Verkhovna Rada withdrew from work in the former regime, when all issues were resolved at a meeting of the heads of factions. The scoreboard was turned on again in the session hall. And oh wonder! The PZHM faction (ex-OPZH) voted perfectly synchronously with the "Servants of the People". That is, imagine! Deputies of "Servants of the People" from Razumkov's group discuss some issues, sometimes do not vote, and sometimes make amendments. And at the same time, the PJM hesitates exclusively along with the party line.</p> <p>The ruler As it was said in a famous Soviet film: "A haberdashery and a cardinal is power!" Yermak and Lyovochkin!... Well, you understand</p>

5	K5.3П- 2	Differs from the standard	<p>I paint. There is one commander-in-chief in the war. Time will judge everything he does. I received "medals" from Poroshenko. First, thanks to Poroshenko, the sugar factories in my village and in the neighboring one were first closed, and then these Tereshchinkiv factories were cut down for scrap metal. And in exchange, Baryga did not give anything. So two villages "died".</p> <p>A friend in Dybaltsevo. He rewarded those who should be tried, and left the rest to the will. About Wagner and not only will be after the war. Like Poroshenko, Ilovaisk, Donetsk summer resort, Dybaltsevo and not only. We have something to say about both father and son. And Firtash, Madvedchuk, Kolomoiskyi, Akhmetov, Poroshenko, this is one cohort. He was NOT bought off by us.</p> <p>And what is the result of his creation of the "Party of Regions"? Let's remember "Bohdany" is a piece of shit with creaking tomoses.</p> <p>Do we recall the automatic wheeled artillery complex "Bohdan"? They write about the tragedies of the wartime after the victory. That is why ALL your arguments do not correspond to the topic. I am not only against Poroshenko, it is necessary to bring the slacker and traitor Maidan Yushchenko and Kuchma to the nuclear missile fool. And Kravchuk with the base of the Black Sea Fleet. And examples where from time to time a corruptor, and later a millionaire is always under the power of Poroshenko. But that will be after our victory. And PR is not a war, it is at least a disgrace! Am I meek about understanding? Learn to answer first, and then ask questions. No respect.</p>
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According to the results of the classification of text messages used for testing the classifier model, it can be assumed that the authors of messages K2.KR-4, K2.KR-7, K2.KR-1, K2.KR-2, K2.KR- 5, K2.KR-6, K2.KR-8, K3.PPI-30, K4.PP-48 are similar.

The authors of messages K1.PU-13, K2.KR-10, K4.PP23 and K5.ZP-2 do not belong to the class similar to the standard.

## 4. Conclusions

Social networks must be subjected to multidisciplinary intellectual analysis in order to identify groups of authors engaged in joint destructive activities. Experimental confirmation of the hypothesis about the possibility of using cognitive mapping of the author's properties in his messages from social networks makes it possible to obtain effective tools for conducting information warfare in a virtual environment. For this purpose, it is advisable to use the methods of profiled formation of the primary description of the printed text, apply machine learning of classifier models, and build virtual works based on the agent approach. The information technology of text classification through machine learning of models based on the results of profiled transformation of short messages of social networks allows to perform multi-directional monitoring tasks, ensuring the protection of the information space of Ukraine.

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